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Are There Compelling Reasons to Consider a Central Bank Digital Currency for the U.S.?

By Zhu Wang

This article examines alternative arguments for considering a central bank digital currency (CBDC) for the U.S. It points out that introducing a CBDC is unlikely to substantially improve the current U.S. money and payments system. A more compelling reason to consider a CBDC is to prepare the U.S. system against future threats, especially those associated with the rise of private and foreign digital currencies. Therefore, there appears no immediate need for the U.S. to issue a CBDC, but the U.S. needs to explore the CBDC technology now for potential future use.

In the past few years, central bank digital currencies (CBDCs) have become an increasingly pressing issue of policy exploration. The latest Bank for International Settlements survey involving 81 central banks shows that 90 percent of central banks are exploring CBDCs and more than half have moved into development or experiment stages. So far, the Bahamas and Nigeria have launched live CBDCs, and China and the Eastern Caribbean have released large-scale pilot versions.

The U.S. is currently considering and debating the prospect of issuing a CBDC. In January, the Federal Reserve Board of Governors released a white paper that discusses the potential benefits and risks of introducing a U.S. CBDC and invites broad public comments. In March, President Joe Biden signed an executive order that, in part, calls for exploring the creation of a U.S. CBDC.

A CBDC, by definition, is a central bank liability issued in digital form to the general public. Central banks have traditionally issued two types of liabilities:

- Electronic central bank deposits, also known as reserves
- Physical cash

Access to the former is limited to qualifying financial institutions that operate in large-value payment systems, so one could think of that as a wholesale CBDC. The latter is accessible to the general public. Thus, CBDC can be considered as a digital form of physical cash. Because it takes a digital form, CBDC can fulfill different functions and have different uses than physical cash.

There have been many general discussions about the pros and cons of issuing a CBDC.[1] In this article, we critically examine alternative arguments. The aim is to identify the most compelling reasons for considering a CBDC for the U.S. and, in that way, to shed light on the policy debate.

Staying on Top of Central Bank Digital Currency Innovation?

We first examine some popular but less compelling arguments for introducing a U.S. CBDC. One view is that the U.S. should not fall behind other countries in CBDC innovation. However, this argument is too vague to differentiate the specific circumstances faced by each country.

The U.S. situation is clearly different from many developing countries that are pushing for a CBDC. In some of those countries, a large fraction of the population is unbanked and relies heavily on cash, and the private financial sector is either inefficient or insufficient to provide digital payment services to the public. In such cases, a CBDC can be a useful tool to modernize the payments system via digitalization.

However, for an advanced economy like the U.S., most of the population is banked, and there are plenty of efficient and innovative electronic payment options to meet public needs. Therefore, the cost-benefit considerations for the U.S. to issue a CBDC are very different.[2]

Improving the Current Payments System?

Another argument in favor of introducing a CBDC is to improve the current U.S. money and payments system. However, this argument may not be strong if we consider a full cost-benefit analysis.

It is plausible that a CBDC will bring some improvement to the current system, but the magnitude would likely be small. Financial inclusion could be one such area. The recent Federal Reserve study "Economic Well-Being of U.S. Households in 2021" shows that 6 percent of the U.S. adult population is unbanked, and some unbanked consumers attribute the reasons to high banking fees or lack of trust in banks. If a CBDC can reduce those frictions, it could help promote financial inclusion to some degree, though the impact would be limited given the small fraction of the unbanked population.

Another possible benefit might be enhancing payment efficiency. Network effects abound in payment systems. As a result, market power and lack of competition are constant concerns, as seen in the payment card and other payment sectors.[3] A CBDC may provide additional competition to help enhance market performance. However, considering the payment services that the Fed already operates and will be introducing (such as the FedNow real-time payment system), the incremental gains from the CBDC could be modest.

On the other hand, these potential improvements must be weighed against the costs of launching a CBDC, which could be large due to the disruptions it may create. One potential disruption is financial disintermediation. A CBDC may compete with commercial bank money or other financial assets and, thus, elevate funding costs for banks and other financial sectors. This may in turn reduce credit availability or raise credit costs for households and businesses, as discussed in a forthcoming *Review of Economic Studies* article "Should Central Banks Issue Digital Currency?"

Financial stability is another concern. Because a CBDC is risk free, market participants would likely withdraw bank deposits or other assets during times of market stress and run to the CBDC, which could make financial markets more fragile. Moreover, issuing a CBDC could entail high operational burdens for the central bank and create additional entry points of risks to the payments system.

Therefore, the net benefit that a CBDC may bring to our current system is likely small. In fact, many existing issues might be better addressed by less disruptive approaches. For example, providing targeted subsidies or assistances may help the unbanked population, and regulatory interventions may address competitive issues.

Maintaining Public Access to Central Bank Money?

Still another argument for introducing a CBDC is to preserve the public's access to safe central bank money. Cash is currently the only central bank money available to the general public. Studies show that the U.S. — like many other advanced economies — has seen a secular shift from cash to electronic payments over many years.[4]

If such trends continue, one may be concerned that the public will eventually lose direct access to central bank money. However, this concern might be unjustified. In our current system, the Fed provides a wholesale CBDC service to commercial banks via reserves, and banks provide retail payment services to end users. Because banks are well-regulated and commercial bank money is by and large government insured, the shift from cash to digitalized commercial bank money has posed little concern to end users and will likely remain of little concern.

A More Compelling Reason for Considering a U.S. Central Bank Digital Currency

So, are there other, more compelling reasons for the U.S. to consider (though maybe not yet issue) a CBDC? The answer is yes, and it has more to do with future-proofing our payment system against emerging challenges, especially the potential rise of private and foreign digital currencies.

In the past decade or so, revolutionary developments have taken place in the digital currency space. Bitcoin — the most prominent cryptocurrency so far — debuted in 2009. Since then, many cryptocurrencies have been launched, and the market has experienced explosive growth. In November 2021, the total value of cryptocurrencies reached a high of nearly $3 trillion.

Despite this enormous growth, bitcoin and other cryptocurrencies suffer high volatility of valuation, which has prevented them from becoming effective means of payments and stores of value. Stablecoins — a specific type of cryptocurrency — have been developed to address this problem by maintaining a stable value. Some leading fintech firms have also planned to launch stablecoins, leveraging their advantages in technology and customer network. For example, the global stablecoin proposed by Facebook (now Meta) attracted great attention and scrutiny from policymakers and the public.[5]

While still at a nascent stage, digital currencies (and specifically stablecoins) have displayed great potential via opening new markets and meeting latent demands, such as trading digital assets, enabling decentralized finance and facilitating cross-border payments. As more applications and use cases are being discovered and developed, their reach in the payments system may greatly expand, and they may be widely used in everyday transactions.

However, the growth of digital currencies can pose new challenges to our payments system and the broader economy. To give just a few salient examples:

- The network effects associated with digital platforms may allow private digital currency issuers to lock in users and exploit market power.
- Collecting, storing and accessing transaction data may raise concerns about consumer privacy.
- Different digital currencies may not be interoperable, which may cause payment system fragmentation.

On top of these, financial stability is a looming concern. Because private digital currencies are not regulated or insured like commercial bank money, they have much higher run risks. The crash of stablecoin TerraUSD is a recent example.[6] Such runs could spread contagiously through market panic and fire sales, causing disruptions to the financial sector and the economy.

One may also be concerned that digital currencies developed by private or foreign entities may “invade” the U.S. monetary sovereign and weaken the status of the U.S. dollar as an international reserve currency.

Addressing these concerns through regulation is an option but may not necessarily be effective, in which case a CBDC could be a valuable and powerful tool. If properly designed and operated, a U.S. CBDC may:

- Help discipline the digital currency space to contain market power and improve consumer protection
- Bridge different digital currencies and serve as an anchor and a reference of unit of account
- Compete away fragile or fraudulent digital currencies and enhance financial stability
- Help protect and preserve the roles of the U.S. dollar in conducting monetary policy and serving as an international reserve currency

Policy Implications

Our discussions of the reasons for the U.S. to consider a CBDC lead us to the following policy implications. First, there does not appear to be an immediate need for the U.S. to issue a CBDC. In our current money and payments system, the Fed provides a wholesale CBDC to commercial banks via reserves and lets well-regulated banks provide retail payment services to end users via insured commercial bank money. A CBDC is not likely to substantially improve the current system. Rather, a premature launch of CBDC could cause unwanted disruptions.

However, the U.S. needs to explore CBDC technology to prepare our payments system for future threats, especially those associated with the rise of private and foreign digital currencies. It takes time to investigate and evaluate the design and functionality of a CBDC, and it is better to start sooner rather than later. Plus, given that many countries around the world are actively researching and developing CBDCs, while the U.S. does not need to rush launching a CBDC, the U.S. might not want to miss the opportunity to participate in and potentially lead the process, for example with respect to standard-setting and international collaboration.

Finally, a CBDC is one way to address the rise of private and foreign digital currencies. Regulation can also play an important role. For instance, policymakers may consider regulating nonbank digital currency issuers directly or adjusting banking regulation and letting banks compete in the digital currency space. Nevertheless, CBDC can be a potentially useful policy tool, and it would be prudent for policymakers to explore and prepare on all fronts.

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[1] *For example, see my 2021 Federal Reserve Bank of Richmond Economic Brief article "Should the Fed Issue Digital Currency?," co-authored with Jessie Romero and Russell Wong.*

[2] *There have been other instances where developing countries leapfrog advanced economies in adopting payment innovations. For example, my 2022 Federal Reserve Bank of Richmond working paper "Technology Adoption and Leapfrogging: Racing for Mobile Payments," co-authored with Pengfei Han, provides the explanation that the U.S. has adopted mobile payments more slowly than many developing countries because the wide adoption of card payments in the U.S. has made mobile payment adoption less beneficial.*

[3] *For example, see my 2020 Journal of Monetary Economics paper "Two-Sided Market, R&D and Payments System Evolution," co-authored with Bin Grace Li and James McAndrews.*

[4] *For example, see my 2016 Journal of Monetary Economics paper "Payment Choice and Currency Use: Insights From Two Billion Retail Transactions," co-authored with Alexander Wolman, and the 2022 Federal Reserve Bank of San Francisco article "2022 Findings From the Diary of Consumer Payment Choice" by Emily Cubides and Shaun O'Brien.*

[5] *See the 2022 Washington Post article "Facebook's Cryptocurrency Failure Came After Internal Conflict and Regulatory Pushback."*

[6] *See the 2022 Time article "The Real Reasons Behind the Crypto Crash, and What We Can Learn From Terra's Fall."*

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